

Introduction

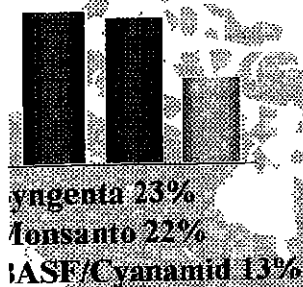
- **Crop Protection** - Markets and business position
- **Development**
 - Key principles and concepts
 - Core Activities
 - Organisation charts
 - How the groups fit together
- **Key Interfaces** - PLT's, R+T, Global Supply, Regions, Countries and other groups
- **Key processes**
 - Stage Plan
 - Governance (decisions, development committee)
 - Project Portfolio Management
- **Conclusions**

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Leading Position in CP across all Geogr

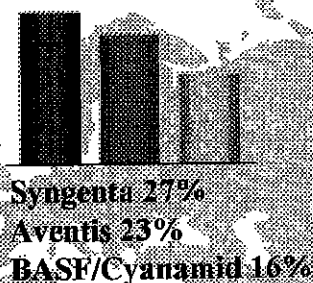
AFTA

Market size: \$ 9 bn



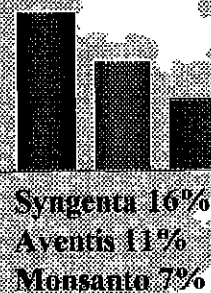
Europe and AME

Market size: \$ 9 bn



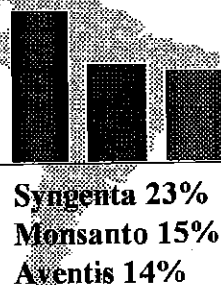
Asia

Market size: \$ 9 bn



Latin America

Market size: \$ 4 bn



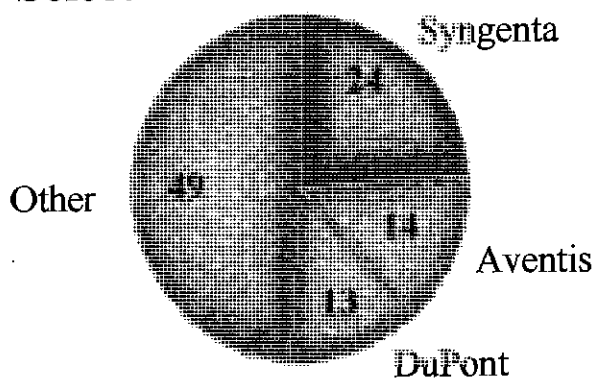
McDermott

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Leading Positions across all CP Products

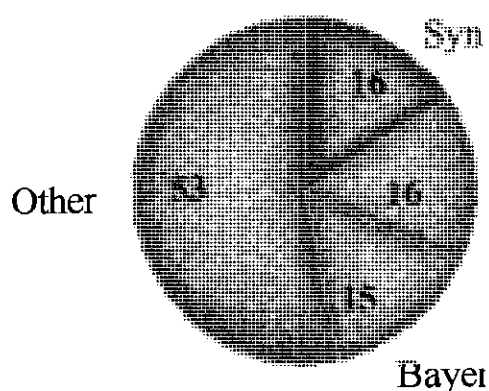
Market share by product line*, % 1999

Selective herbicides



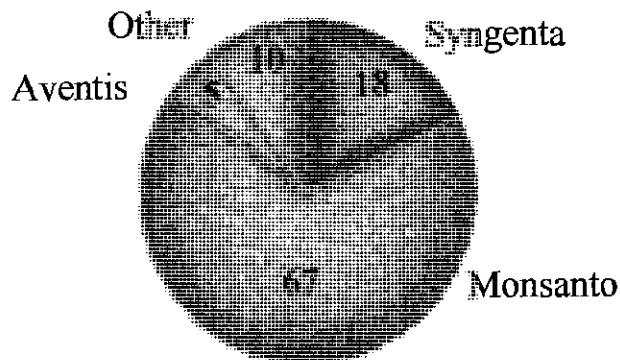
1999 estimated market: \$ 10.6 bn

Insecticides



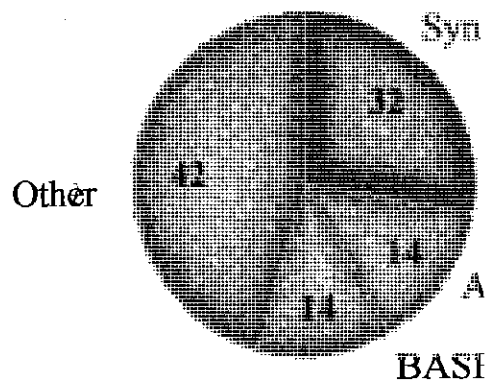
1999 estimated market: \$ 7.0

Non-selective herbicides



1999 estimated market: \$ 3.7 bn

Fungicides



1999 estimated market: \$ 5.8

*products included in herbicides, fungicides and insecticides

McDermott, Syngenta

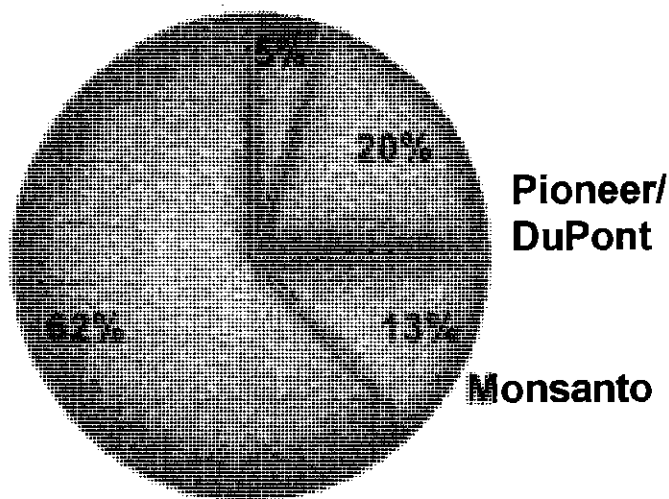
Strong Position in High-Value Commercial Seeds

Market share by product line, % 1999

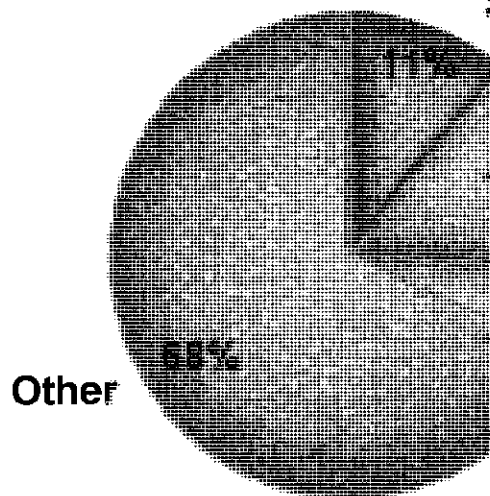
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Vegetables and flowers

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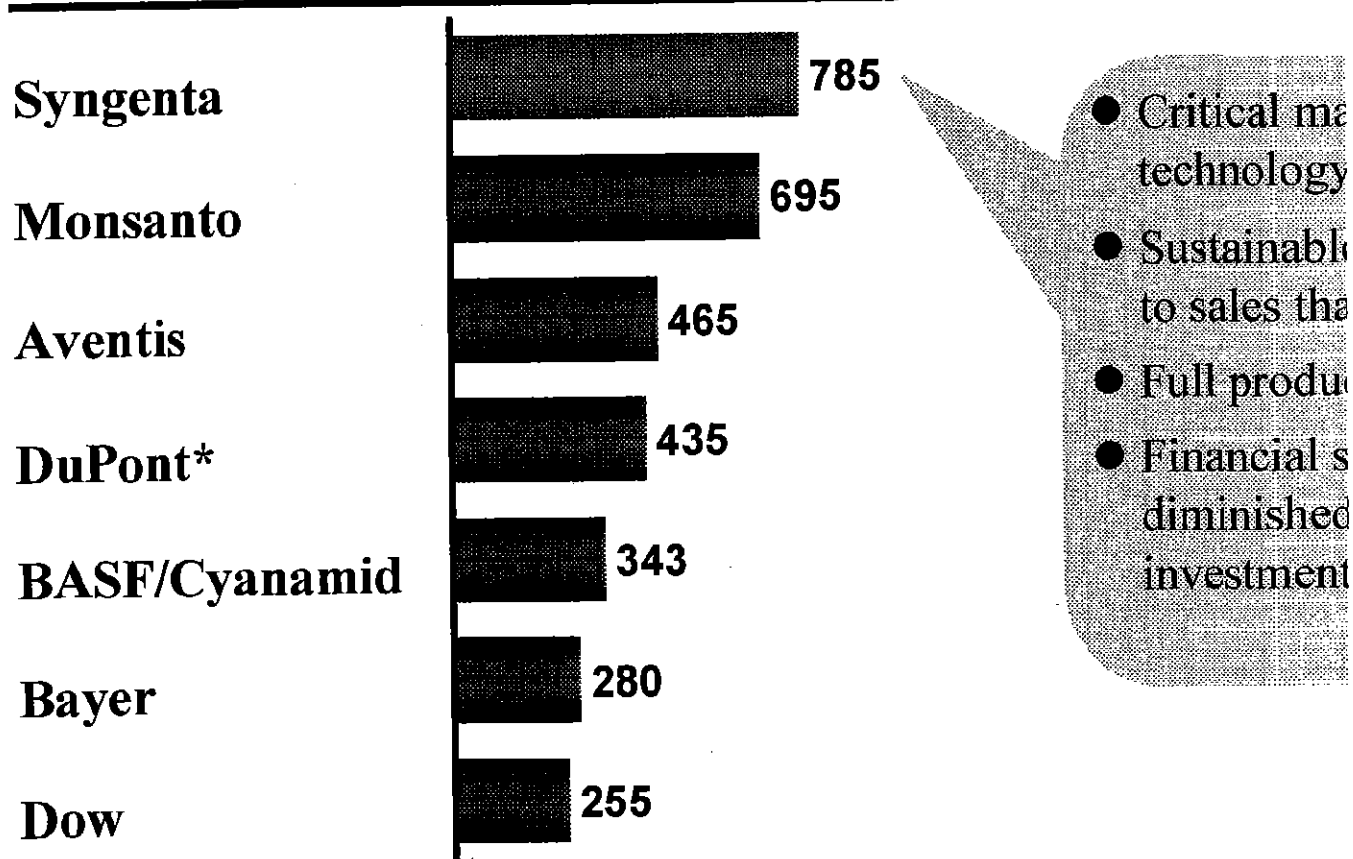


1999 estimated market: \$ 9-11 bn

1999 estimated market

Leadership in Research & Development

R&D expenditure, 1999
\$ m



Development - What does it cover ?

- HQ Development Organisation
- Development projects and resources - world-wide
- Single annual global budget

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Product Development - Core Goals

Product Development group harnessing technical ideas and innovation across all business units to create and deliver added value science and solutions

- **Support and deliver growth strategy**
- **Cost-effective programmes**
- **Quality to specification**
- **On time**

Expand and innovate product range

Establish global standards, policies and processes

- **Product performance and field data**
- **Regulatory affairs**
- **Project management**
- **Product stewardship**

Transparent, single work-slate of development projects with shared resources

Development Organisation - Conc

ens and is aligned with Product Leadership Team con

**product has clear accountable person for each area of
product technical performance**

gistration

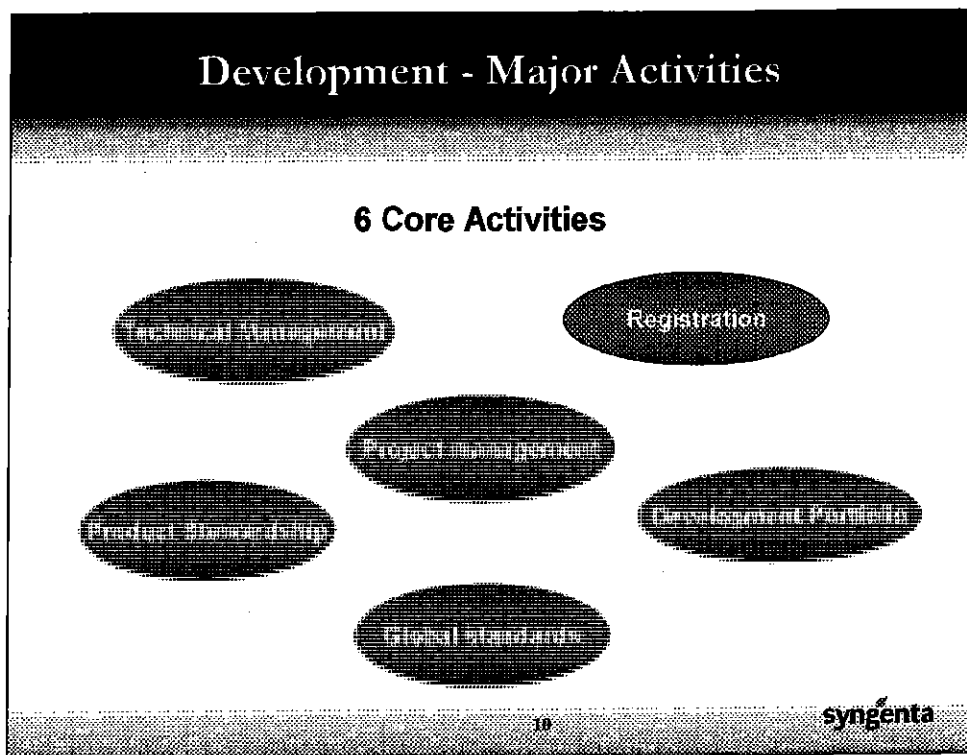
source planning and monitoring of projects

re global activities - leadership, co-ordination, strategy

**nal excellence: product performance, data-managemer
registration, project management**

cus on visibility of project progress and use of resourc

n use of IT and communication systems



Development - Core Activities

Head of Product Development

Affairs er

ory strategy
ncing
ndards
ackages
istry
& database

Development Portfolio Manager

- Single, visible work-slate
- Project prioritisation processes
- Study planning and monitoring
- Cost management and budgets
- Resource allocation
- Project management skills/tools
- Database and systems

Global Standards Manager

- Global field trials planning and data management support
- Sample logistics
- Statistics
- Standards and processes
- Application technology
- SHE

Proc

r

Technical Leader Insecticides

Technical Leader Non-sel Herbicides

Technical Leader Selective Herbicides

- Product performance
- Technical strategies and product positioning
- Issue management
- New AIs, formulation improvement and product defence
- Information and support for launches

Technical Management

Leadership roles on product performance and utility
Basis on global, core accountabilities
New Als, global formulations/use projects
Use rates, positioning, product differentiation
Harnessing innovation
Product performance issue management
Working with research
External competition and trends - outward looking
Global data crunching and detailed reviews will be
Countries
Integrated networking with regions and countries
Specialists identified world-wide and utilised

Global Standards and Field Network Support

- One group for all Development and R+T
- Global visibility and accessibility of field data
- Co-ordination global field trials planning process - D and R+T
- Trials design and new techniques to improve capability/capacity
 - including support on biotech trials for R+T, Crop Genetics
- Development of field IT systems - data capture, storage, retrieval
- Statistics
- Support for technical managers - trials analysis
- Application technology
 - global co-ordination
 - operator exposure studies
- Sample logistics and supply
- Field SHE

13

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International Field Stations

- Both Zeneca and Novartis have field stations world-wide
- Syngenta will have global capability and capacity to meet company needs
- Delivering work for research, development and in market support
- Focused approach with stations having targeted expertise on crops and CP targets
- For development of new active ingredients and formulations - ability to test at 3 sites per season to support fast-track timelines
- Jealott's Hill and Stein/Les Barges will continue as sites for testing research compounds
- Jealott's Hill will remain a key site for testing GM crops
- Announcements on field stations will be cascaded as soon as possible on a country basis

14

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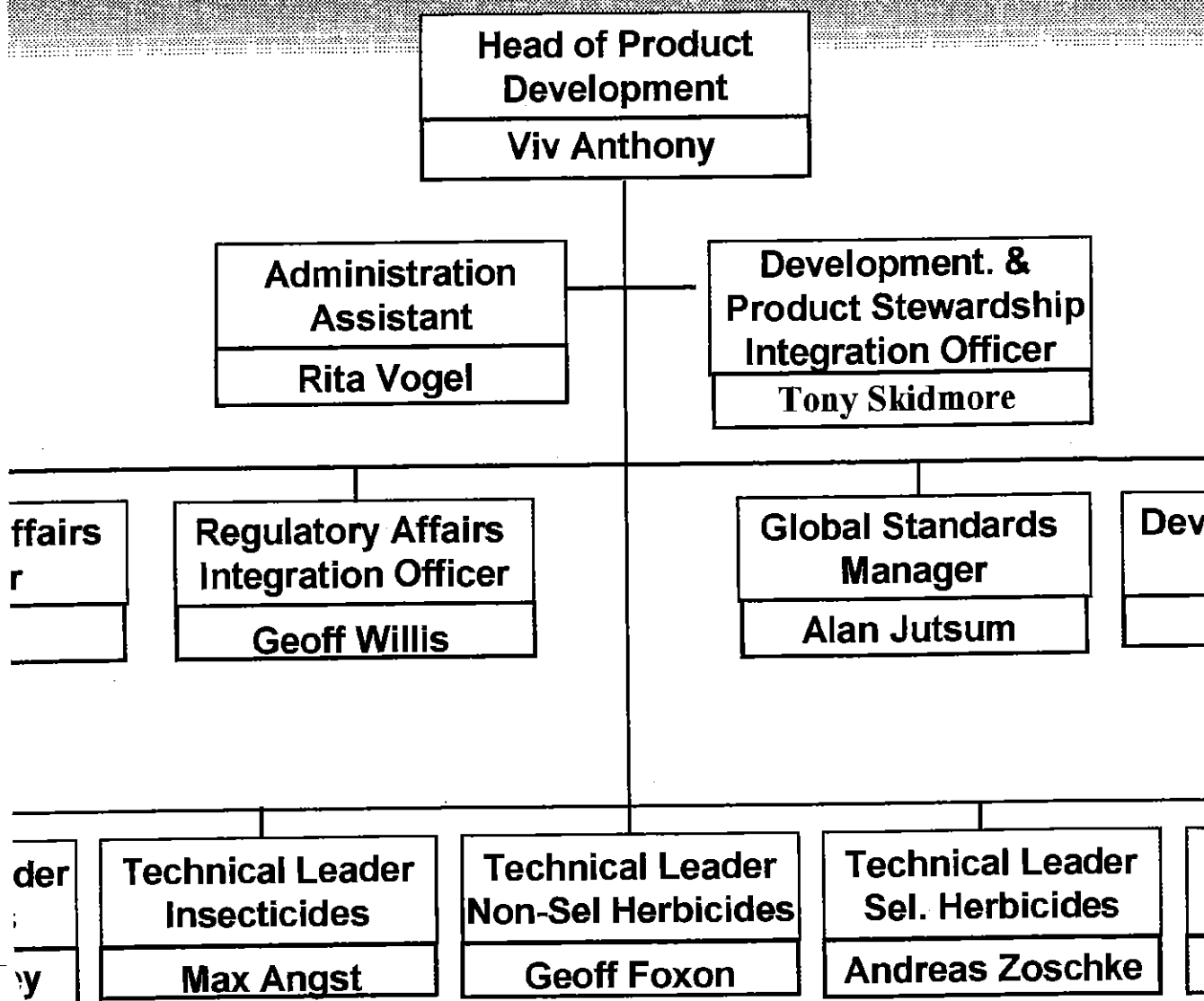
Registration Management

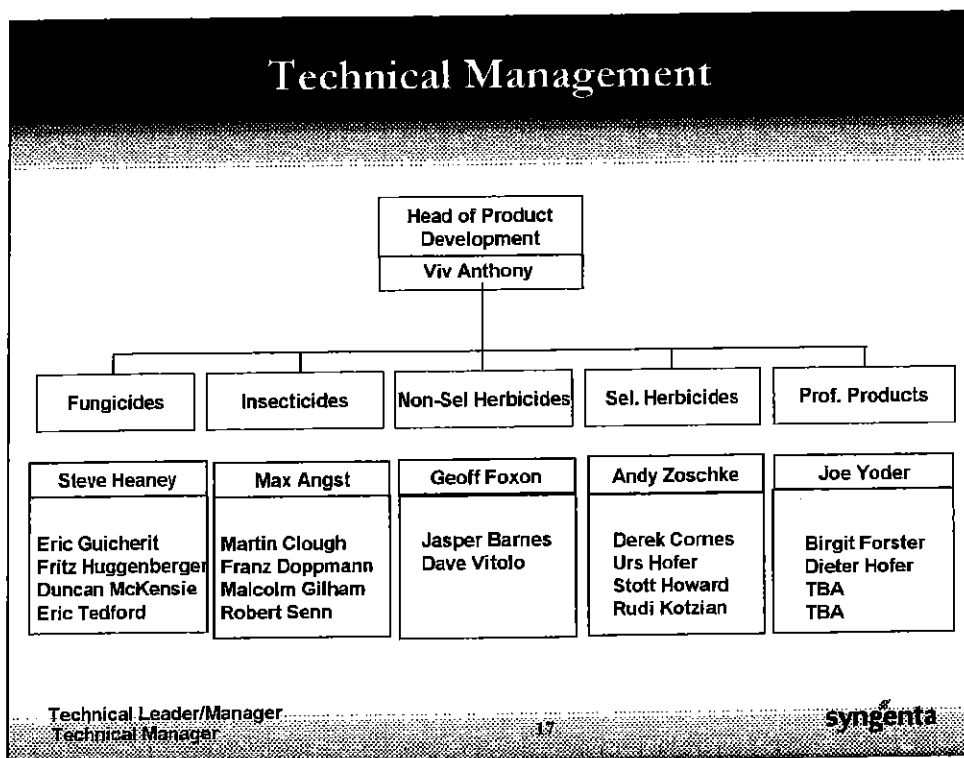
- Regulatory strategy for each AI
- Registration package to meet business requirements
 - Lead Regulatory Development Team
 - Speed - cost - quality of registration - risk
- Global leadership on strategic regulatory issues
- Proactively influencing key external groups
 - Traditional government regulators
 - International influencing bodies - WHO, FAO, OECD
 - Food industry
 - Use of regulatory data to support marketing/sales
- Regulatory database and document registry
- Product chemistry
- Close liaison with HAES
- Support to Regions and Countries on key regulatory projects

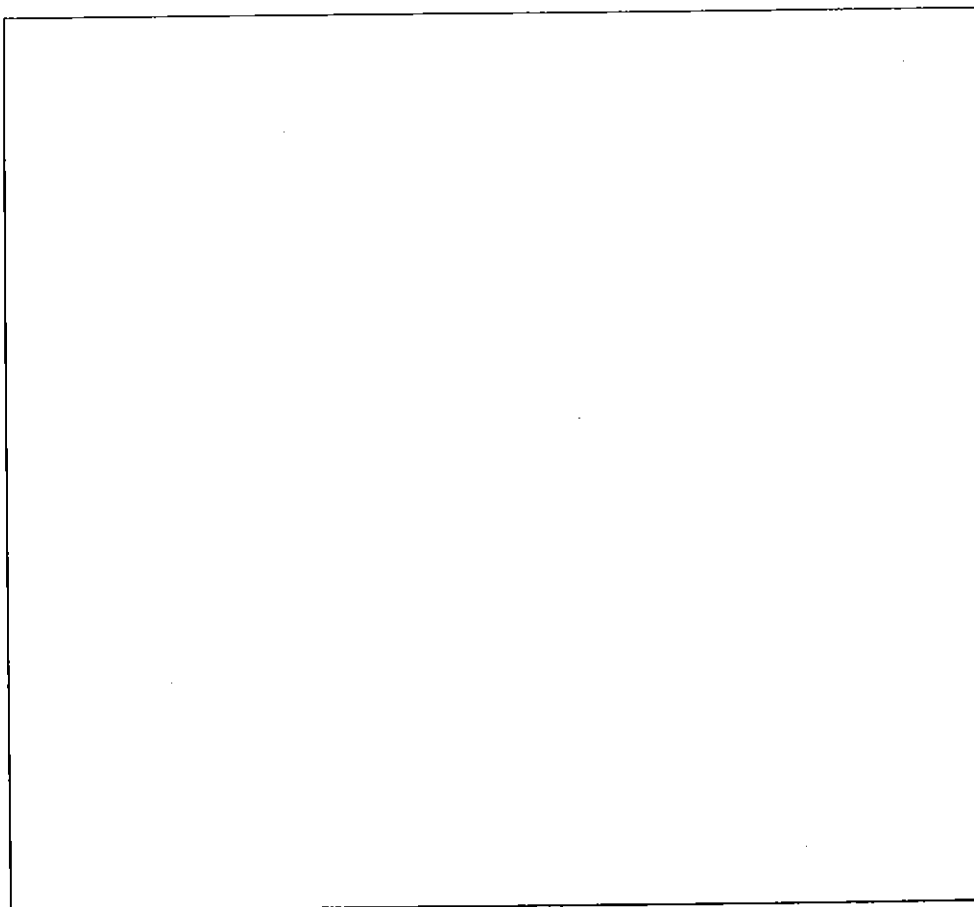
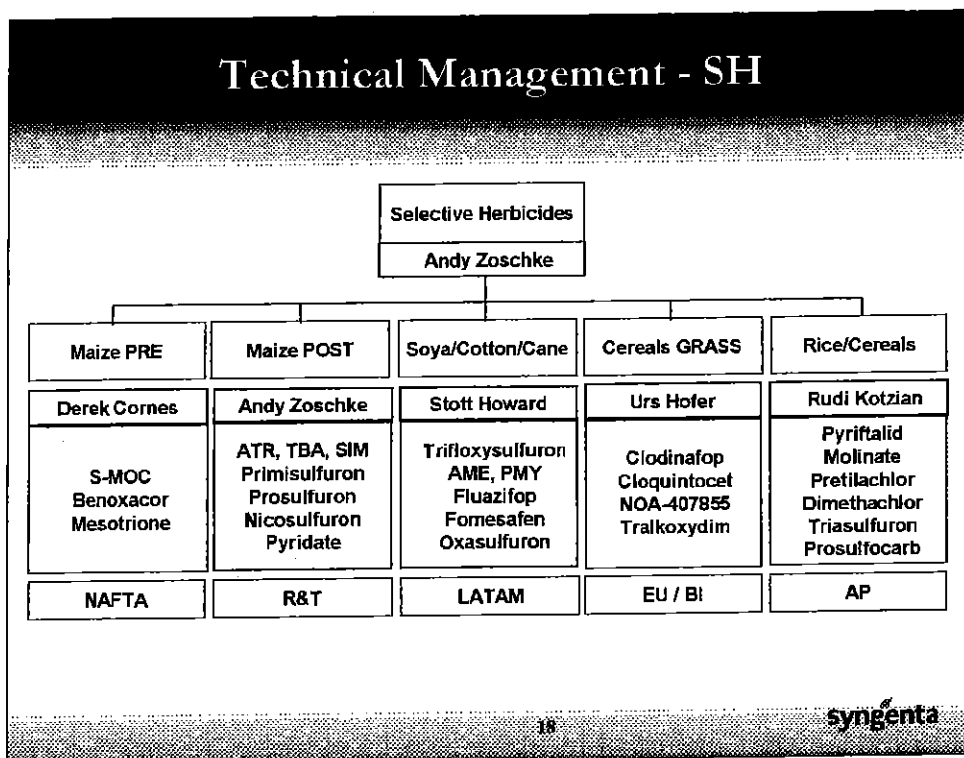
15

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Development Department







Technical Management - SH

Selective Herbicides

Key Projects 2001

- ☐ **s-Metolachlor** in maize – launch in Europe
- ☐ **Trifloxysulfuron** in cotton / cane – launch in Brazil, prepare USA
- ☐ **Pyriftalid** in rice – launch S. Korea, prepare Japan
- ☐ **Mesotrione** in maize – launch Germany ++, prepare USA
- ☐ **NOA-407855** in cereals – define core product concept(s)

19

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Technical Management - SH

Selective Herbicides

Trifloxysulfuron (CGA-362622) in cotton / cane

➤ **BRAZIL & ARGENTINA**

- secure successful launch of ENFIELD® and KRISMAT®
- secure transfer of technical knowledge to marketing / sales

➤ **USA**

- submit registration dossier

➤ **GENERAL**

- consolidate biological profile (URS in cotton, carry-over)
- finalize HCLP (Herbicide Communication and Launch Platform)
- establish HTC concepts in soybean & rice (w/ Non-SEL Herbicides)

20

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Technical Management - SH

Selective Herbicides

Pyriftalid (CGA-279233) in rice

➤ S. KOREA

- obtain registration
- secure successful launch of APIRO® GR
- secure transfer of technical knowledge to marketing / sales

➤ JAPAN

- submit registration dossier
- finalize product concepts & 3rd party collaborations

➤ GENERAL

- finalize HCLP (Herbicide Communication and Launch Platform)
- complete registration trials in WEU
- clarify ECHCO activity issue in COL

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Technical Management - SH

Selective Herbicides

Mesotrione (ZA-1296) in maize

➤ USA

- secure successful registration & positioning of CALLISTO ® (solo)
- start development projects with s-MOC & atrazine

➤ WEU

- secure successful positioning / launch of CALLISTO ® (solo) in A & D
- start development projects with s-MOC & triazines
- start development project with nicosulfuron

➤ GENERAL

- study formulation options relative to preferred product concepts
- analyze various technical options in PRE- an POST-em
- investigate opportunities in other crops (cereals, rice)

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Technical Management - SH

Selective Herbicides

NOA-407855 in cereals

➤ **WEU, NAFTA & AUSTRALIA**

- start registration trials (residue & efficacy)

➤ **GENERAL & OTHERS**

- freeze core formulation
- finalize additive strategy
- establish product & branding concepts for all countries / regions
- conclude re leaching behavior

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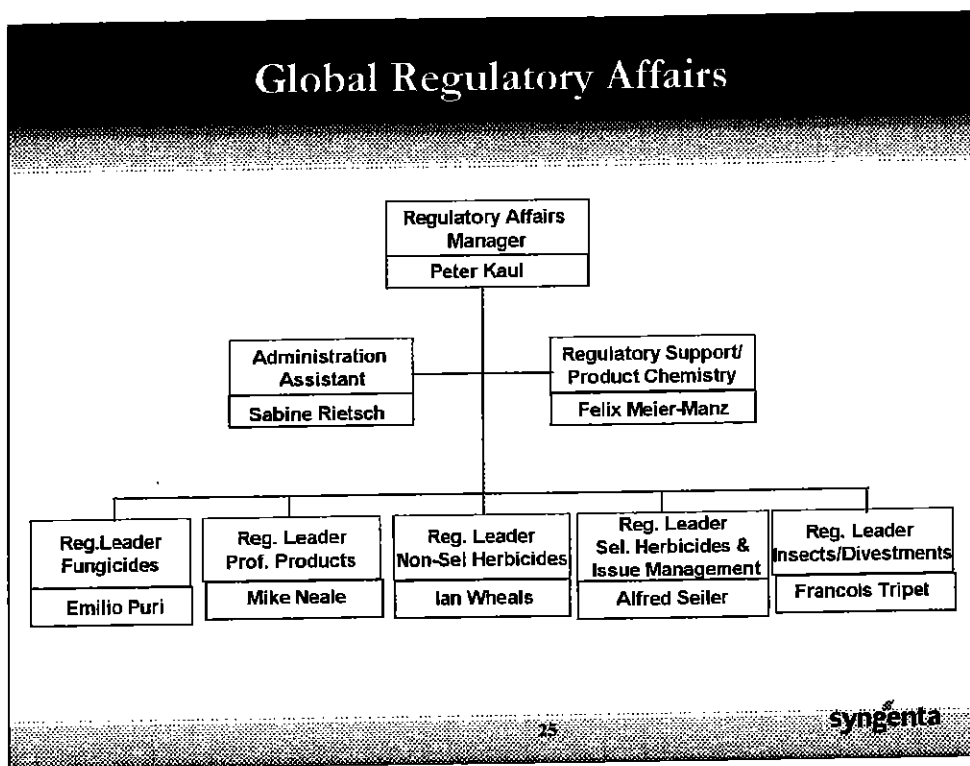
Technical Management - SH

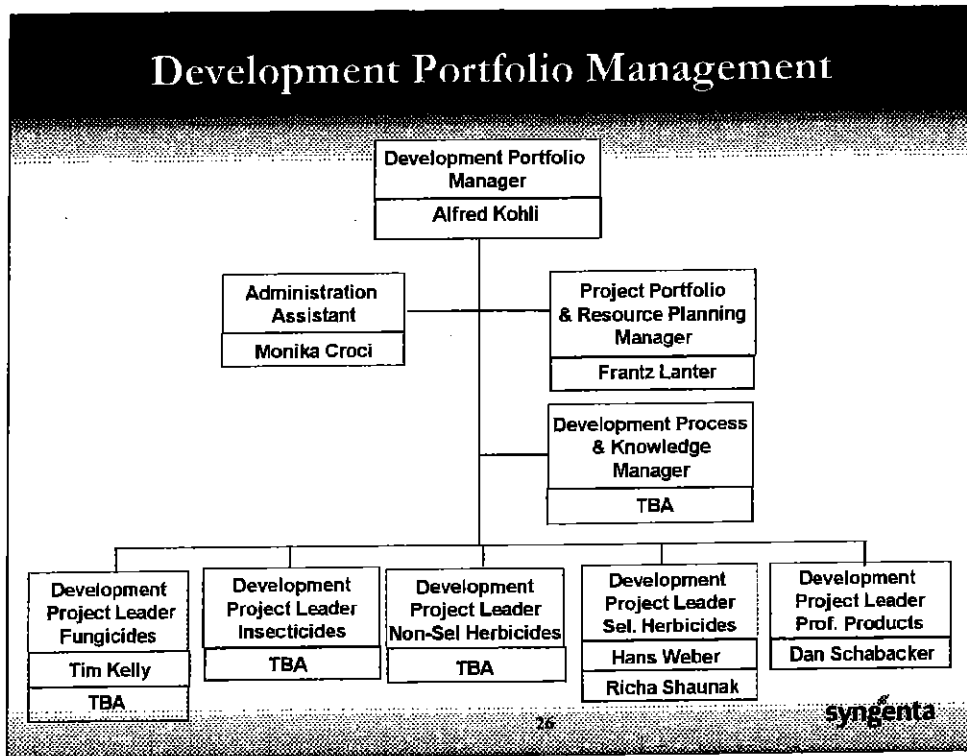
Selective Herbicides

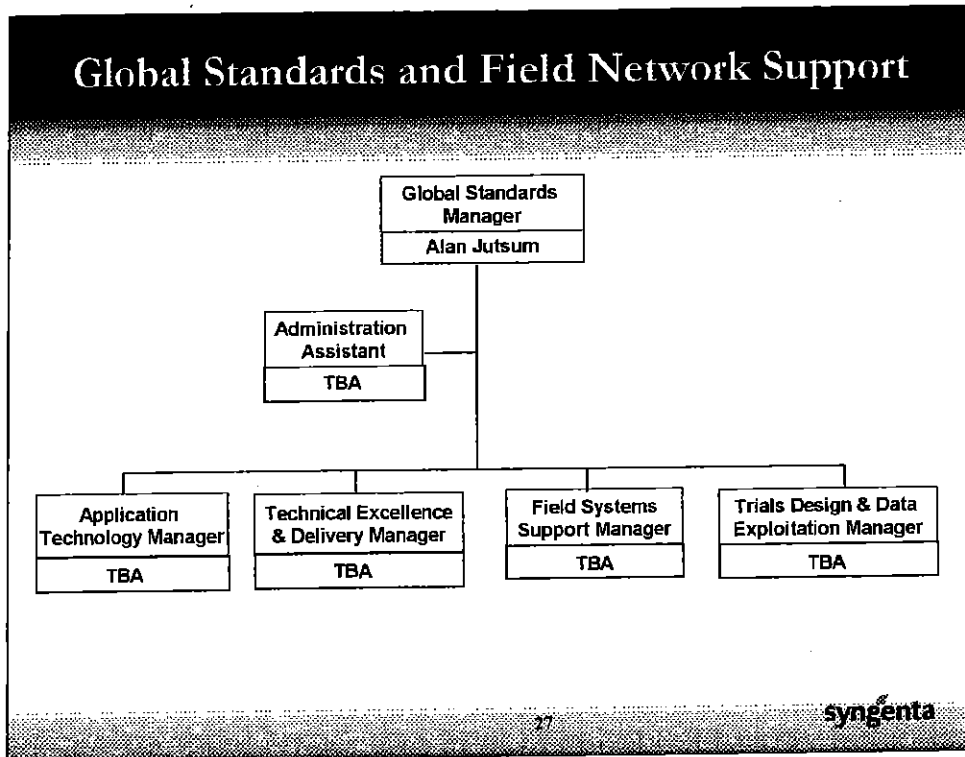
Other projects

- Study new projects ideas
 - maize (mesotrione vs. triazines, sulfonylureas)
 - cereals (clodinafop vs. tralkoxydim +/- cloquintocet)
 - rice (molinate vs. pyriftalid, cinosulfuron vs. mesotrione)
 - BL crops (clodinafop vs. fluazifop)
- SH - Portfolio
 - questionable A.I.'s
 - positioning of different product concepts / solutions (all crops)
- New chemical projects
 - HPPD, eg. NOA-449, R604 (com)
 - KYNE (cereals)

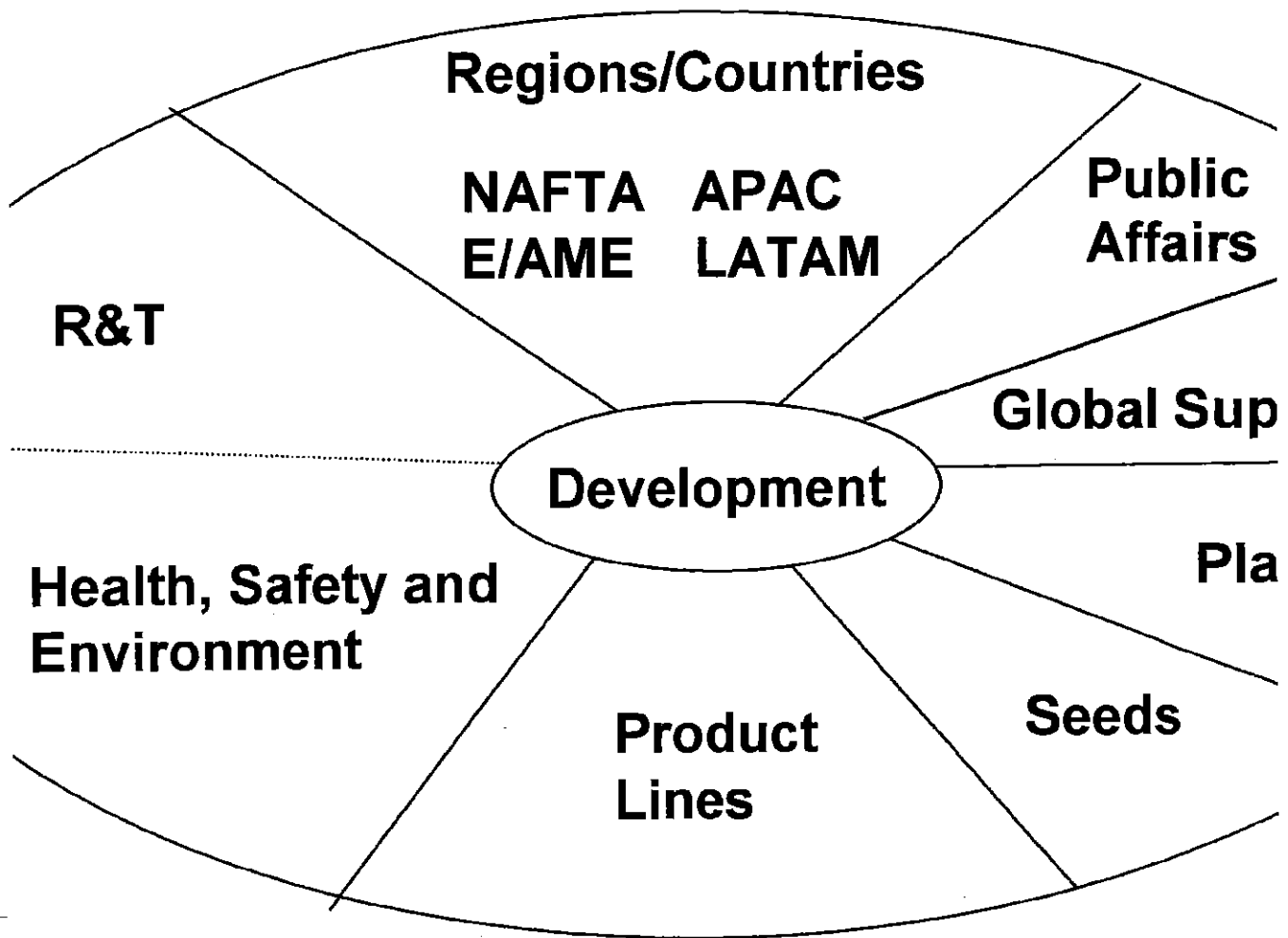
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Development - Interfaces

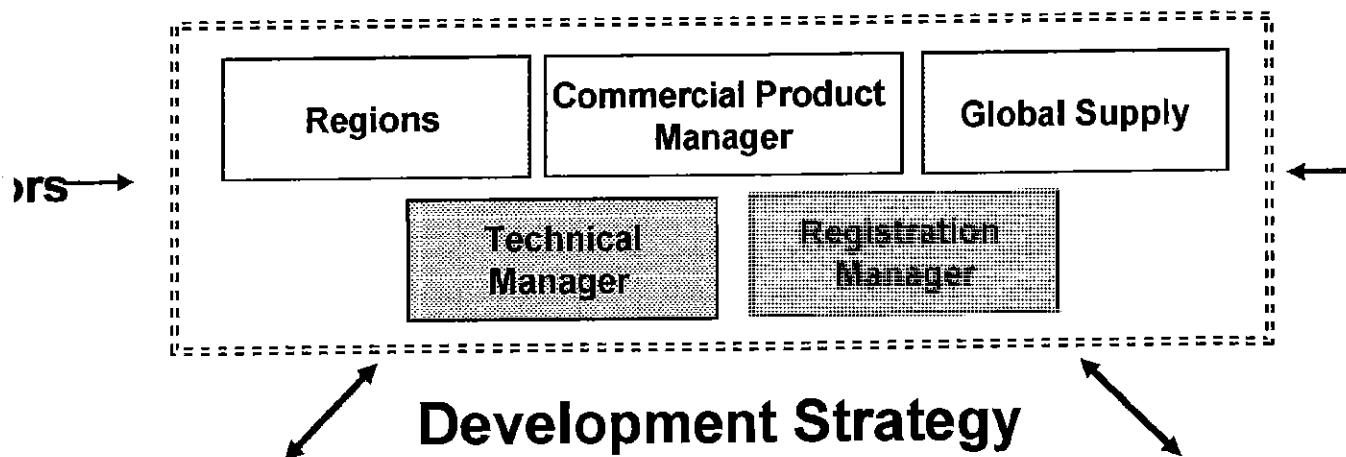


Development - Key Processes

ss	Purpose and Activity	F
Plan	<p>Bring products to market</p> <p>Product Leadership Teams Project management Development Committee</p>	Co
Development lio	<p>Prioritisation of projects and assign resources</p>	A
ting	<p>Allocation of funds to development and resource centres</p>	A

Development Projects - Implementation Delivery

Product Leadership Team



Biological Development Team

Field Trials Region/Country
Glasshouse Biology
Formulation development
Mode of Action
Global standards
Planning

Regulatory Development Team

Regional regulatory
Toxicology
Environment/s
Product chemistry
Planning

Development Project Leader

Development Project Leaders

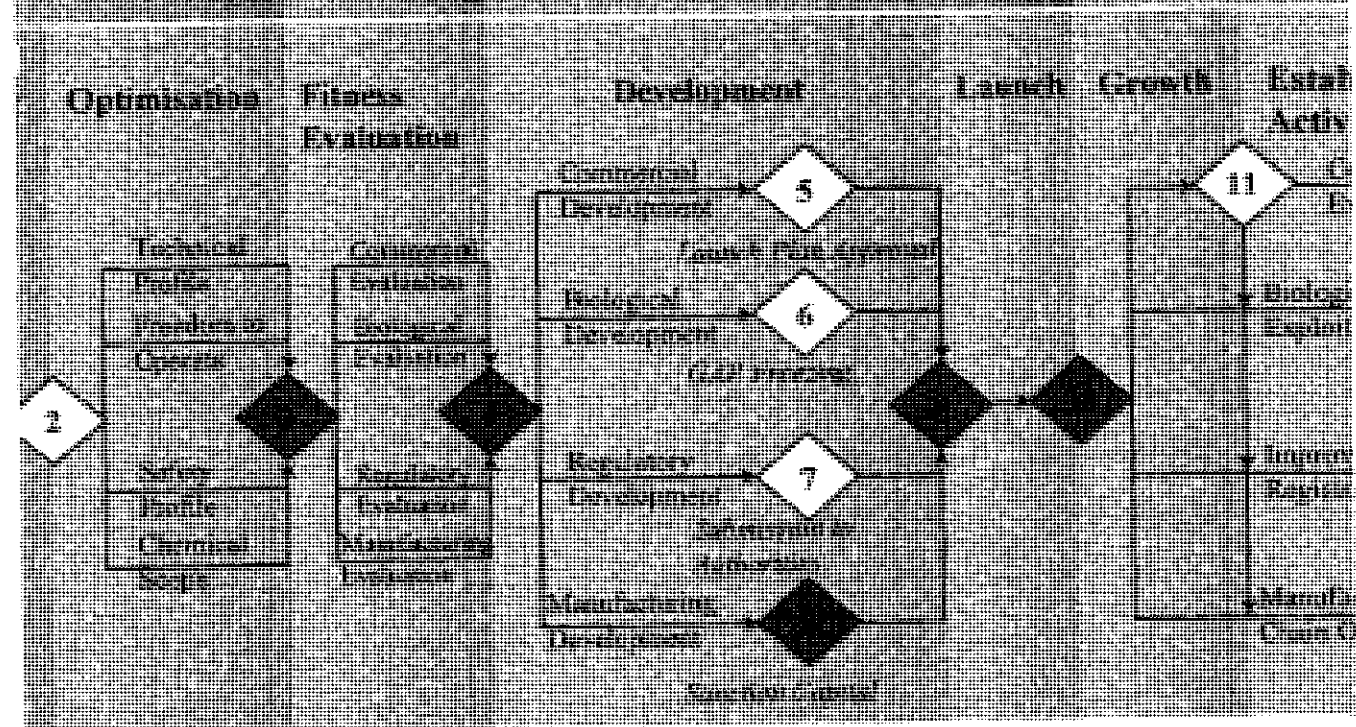
- To manage dimensions and complexity of portfolio
- Route for PLTs to secure development resources
- 7 project leaders
- Professional project managers using prime modern tools to provide:
 1. Options to PLTs - timelines, costs, risks, quality specification
 2. Initiating plans and contracts to resource centres
 3. Focus and delivery - track progress, monitor costs and raise issues to PLTs

11

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Stage Plan - New Active Ingredient

Stage 1 Research - 5 years	Stage 2 Evaluation 1 year	Stage 3 Development 7 years	Stage 4 Life Cycle 15 - 20
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Optimization Decision Evaluation Promotion Development Promotion

Launch Decision Life Cycle Management Promotion Establish Active Ingredient Decision

Strategic Decision

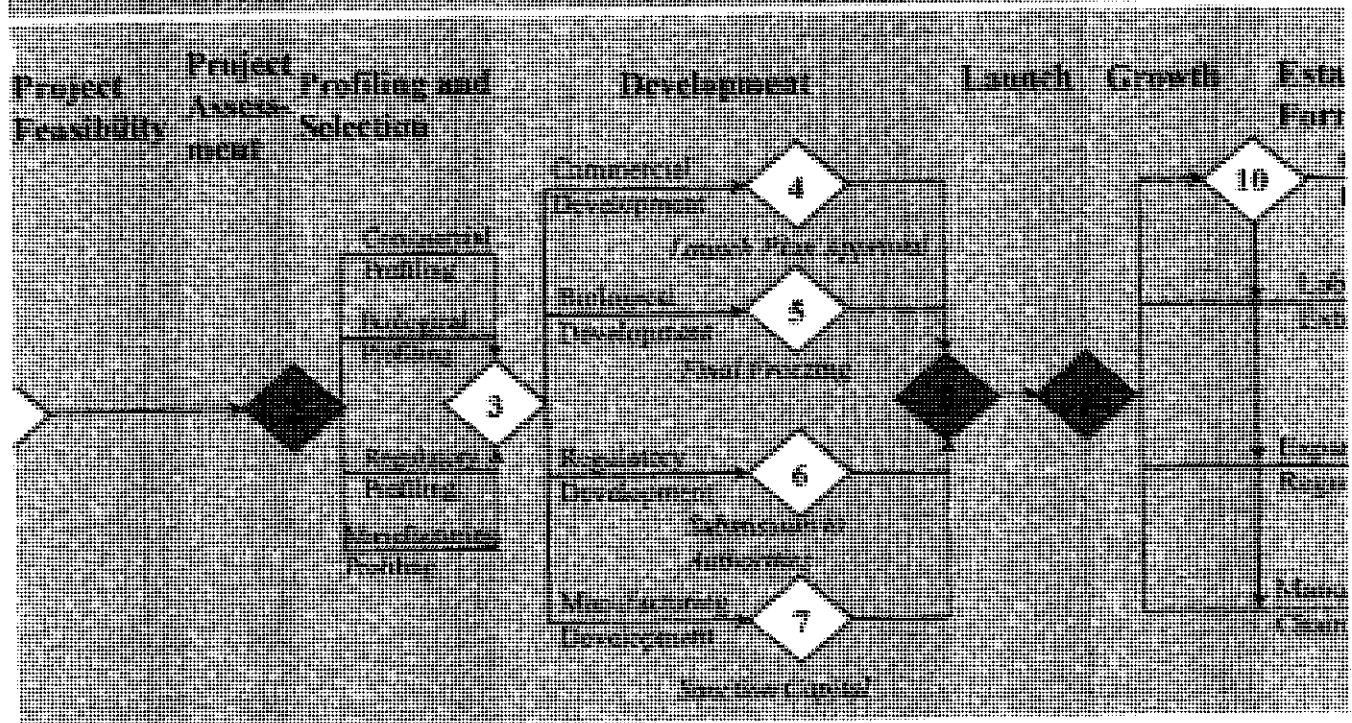


Decision

* Fast Track Ti

Stage Plan - New Formulations

Stage A Business Needs ongoing	Stage B Development 2 - 3 years	Stage C Launch 2 years	3
			3
			3



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Development
Promotion

Provisional
Freezing
Decision

Launch
Promotion

Sales
Promotion

Establishe
Formulati
Decision

Strategic Decision Point



Decision Point

* Fast Track Tim

Development - Governance

Stage Plan	Promotion Proposal	Approval	Promotion Decision
Qualification	Prospective PLT	Development Committee *	CP Management
Development	PLT	Development Committee * CP Management Team	Syngenta Executive Committee
Launch	PLT	Development Committee *	CP Management
Phase-out/ Exit	PLT	Product Line Head	CP Management Syngenta Executive Committee

Development Committee - Technical B

Key Role

AI stage promotions - review proposals from PLTs

Annual technical and regulatory review of key AIs

**Science reviews and issue management on tox,
environmental, product performance, formulation
and production**

Recommendations to CP Management Team

Setting standards and policy on technical matters

—Official trail for external auditing

Development Committee - Technical R

t

on focused meetings

meeting - 5 December 2000

er year

**ible based on project decision points and
management**

**2 promotions - jointly with representative
Research and Technology**

Development Committee - Technical R

S

Members

Development (chair)
Development Portfolio Manager (secr.)
Research Projects
Regulatory Affairs Manager
HAES
Manufacturing/formulation

Frequent Attendees

- Intellectual Property
- Technical Managers
- Scientists and experts
- Development Projects
- Regional representatives
- R+T representatives
- Product managers

Members listed are a draft proposal

Resource Budgeting

approach needed for Syngenta

**operation needed with all other budget hol
sure capacity and capability for all busin**

istency with Product Portfolio Process

al cycle

Development Budgeting

Line-Management



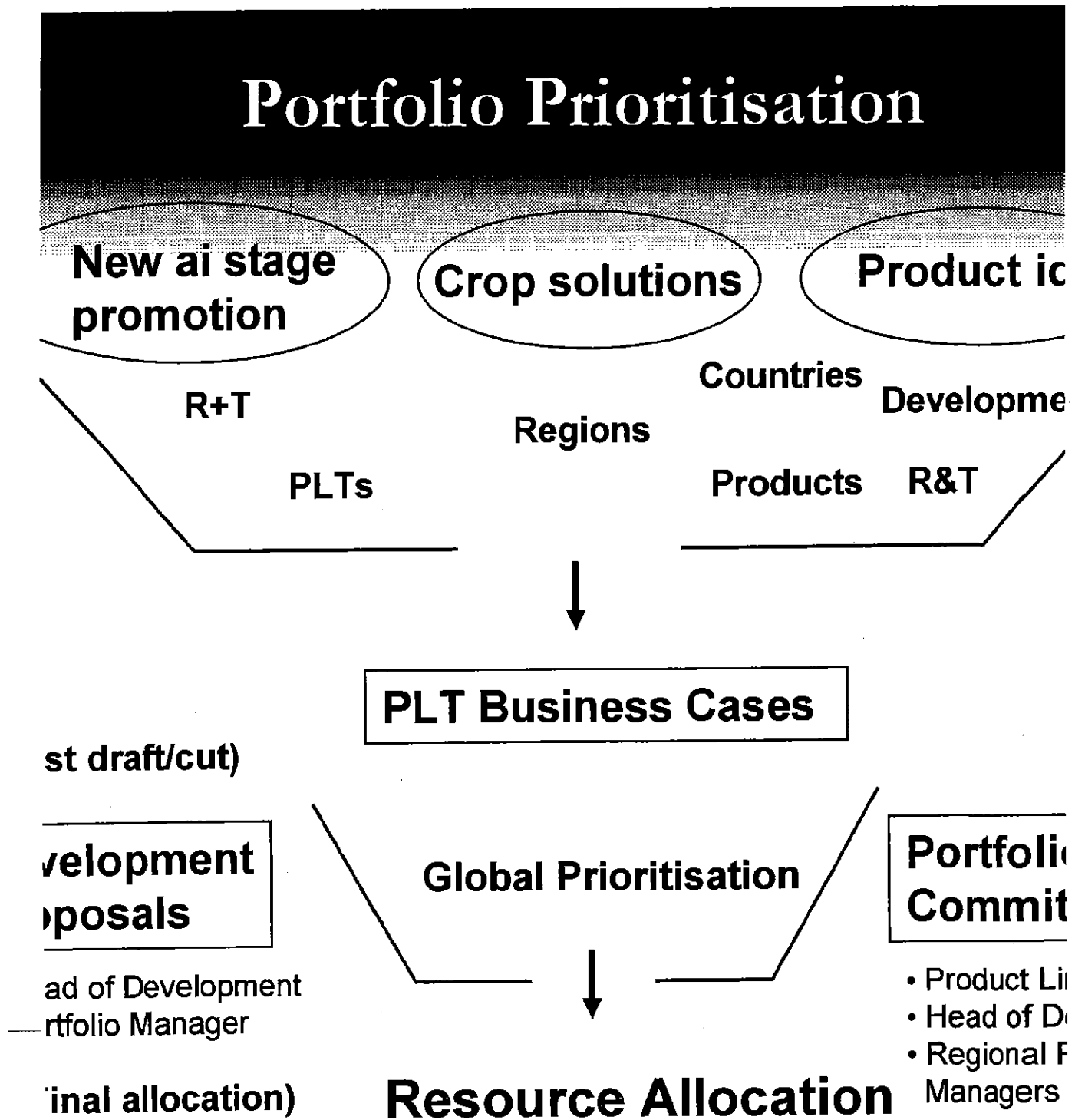
Budget holders

- 3 way meetings between budget holders
- Development co-ordination - major holder
- Resource targets defined - projects, activities and priorities
- Agree resource capacity and capability need
- Starts June/July
- Aligned with portfolio cycle

Portfolio Prioritisation Process

Active ingredients and Formulations

**Single work-slate of projects within Synq
Resource use aligned to business priorit
Clear, visible, owned and supported pro
Products, development, regions, countri
Annual cycle - synchronised with budge**



Syngenta - Development Portfolio 2001

- Total number of Syngenta project proposals - 416
 - Novartis - 243
 - Zeneca - 173
- Zeneca largely balanced with pre-merger resources
- Novartis c. \$12m over-subscribed
- + Promotion decisions
- + Strategic combined portfolio projects
- Dec 7 - PLHs and Development with input from Regions
 - priority decisions to balance supply and demand
- New process for 2002 - rolled out 1-2Q 2001

12

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Crop Solutions

lio Prioritisation

erent types of crop solutions emerging
erent levels of resource
erent key players
gration of thinking and resources needed

-> Crop use --> Food Chain (Farmers, food
multiple ai's --> Crop Programmes (+ Region)
combination with Plant Genotype (++ PSA, Seeds

Conclusions

- Syngenta is a new company with unique organisational structure
- Many new types of jobs and processes
- Team work is essential
- Size and complexity - biggest challenges
- Encouragement of new ideas and innovation
- Development portfolio - setting the focus, priorities and incorporating crop solutions are key to success and future growth
- Your inputs and expertise are needed to shape the processes and direction of Development to meet our business goals

44

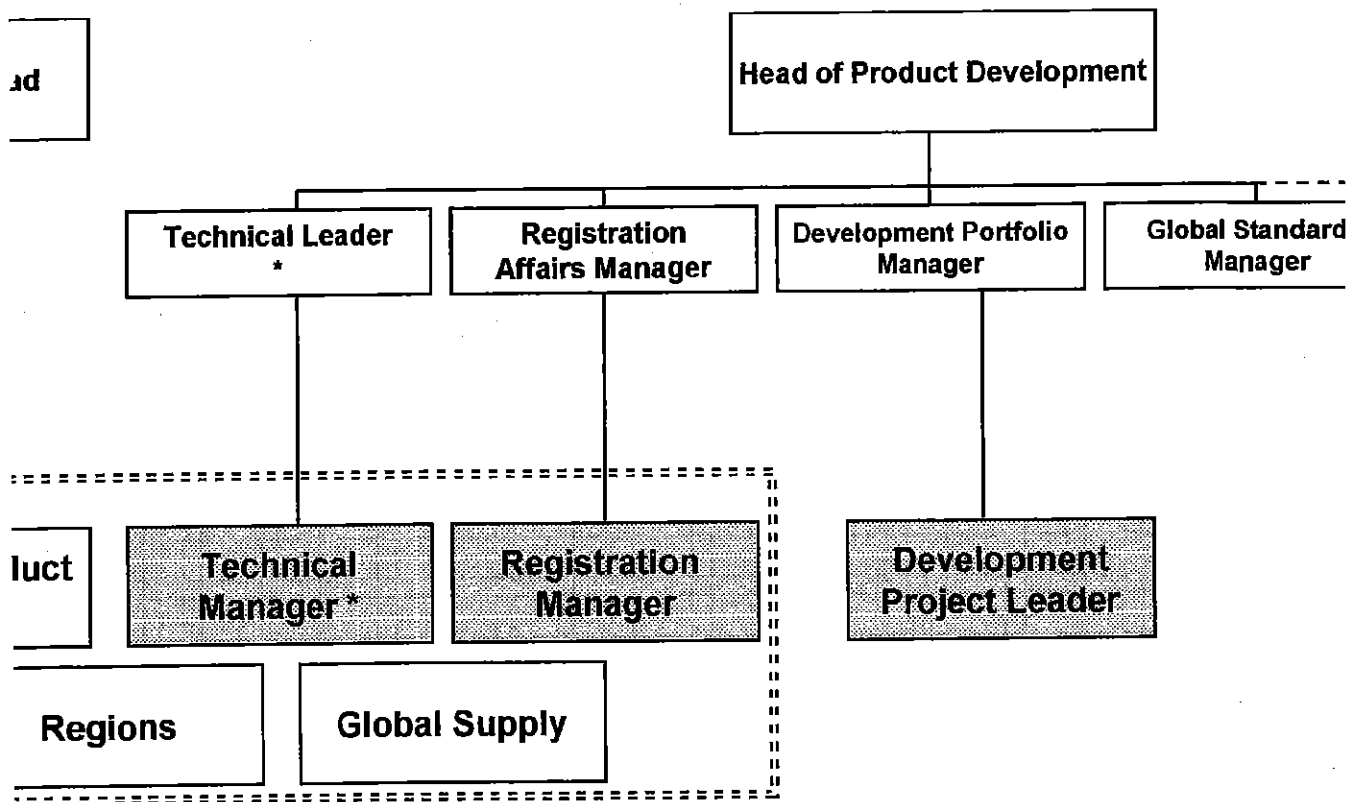
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Development Vision and Processes Communication

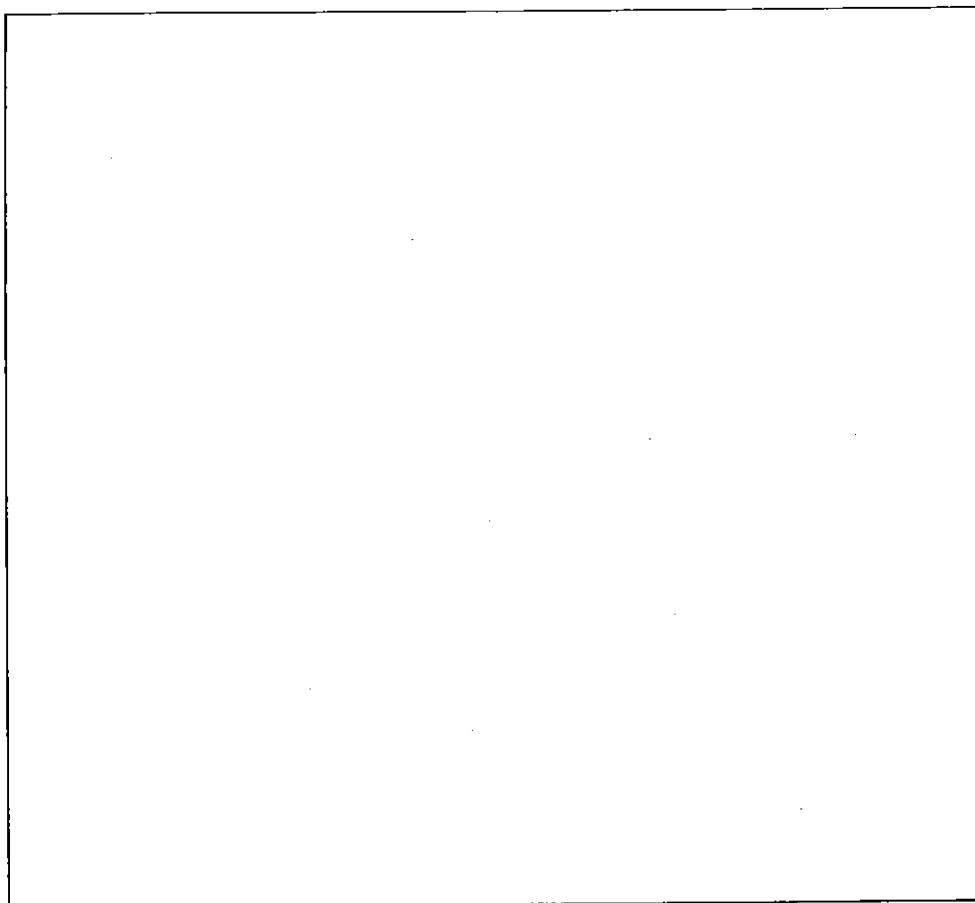
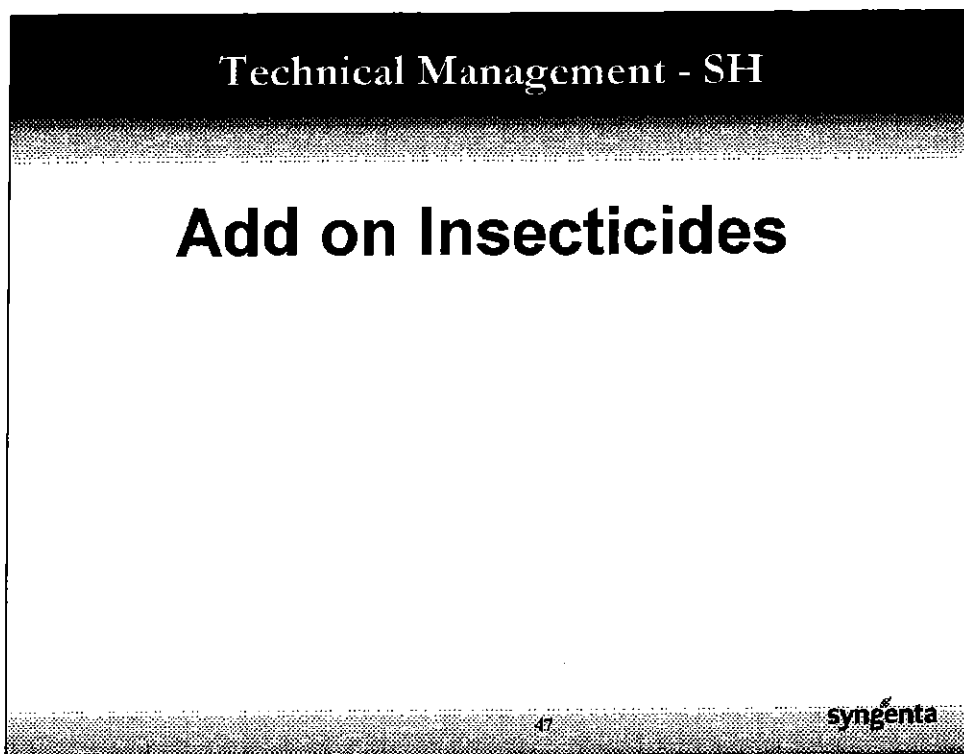
- Visits to Key Sites - 1 week after R+T roll out
- Target audience - key staff on development projects
- Proposed dates
 - 27 Nov - JH (am) Envir
 - 28 Nov - Greensboro Form Envir/Safety
 - 29 Nov - Williamsburg US Development/Planning
 - 30 Nov - Basle/Stein Bio/form Envir/Safety
 - 1 Dec - CTL Safety

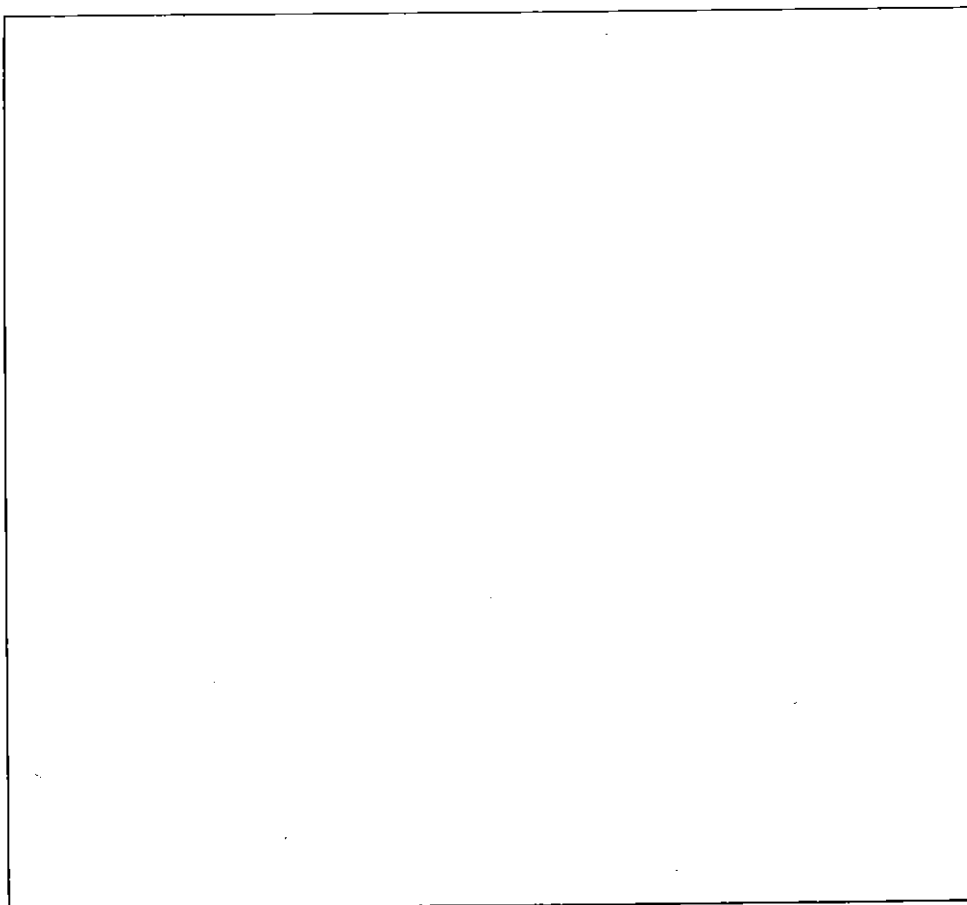
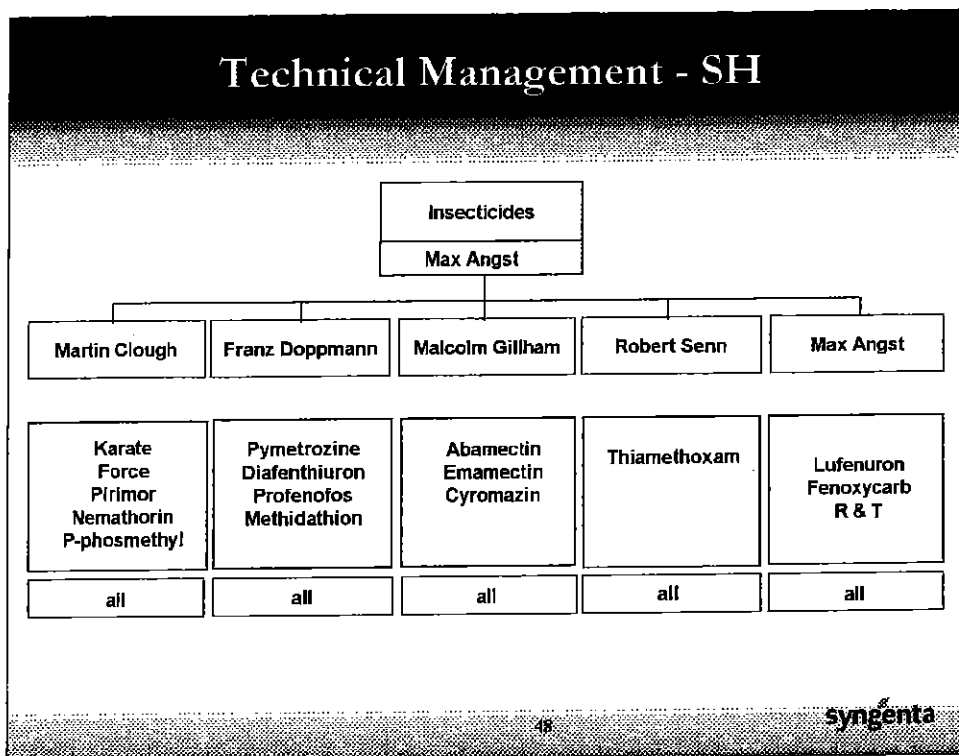
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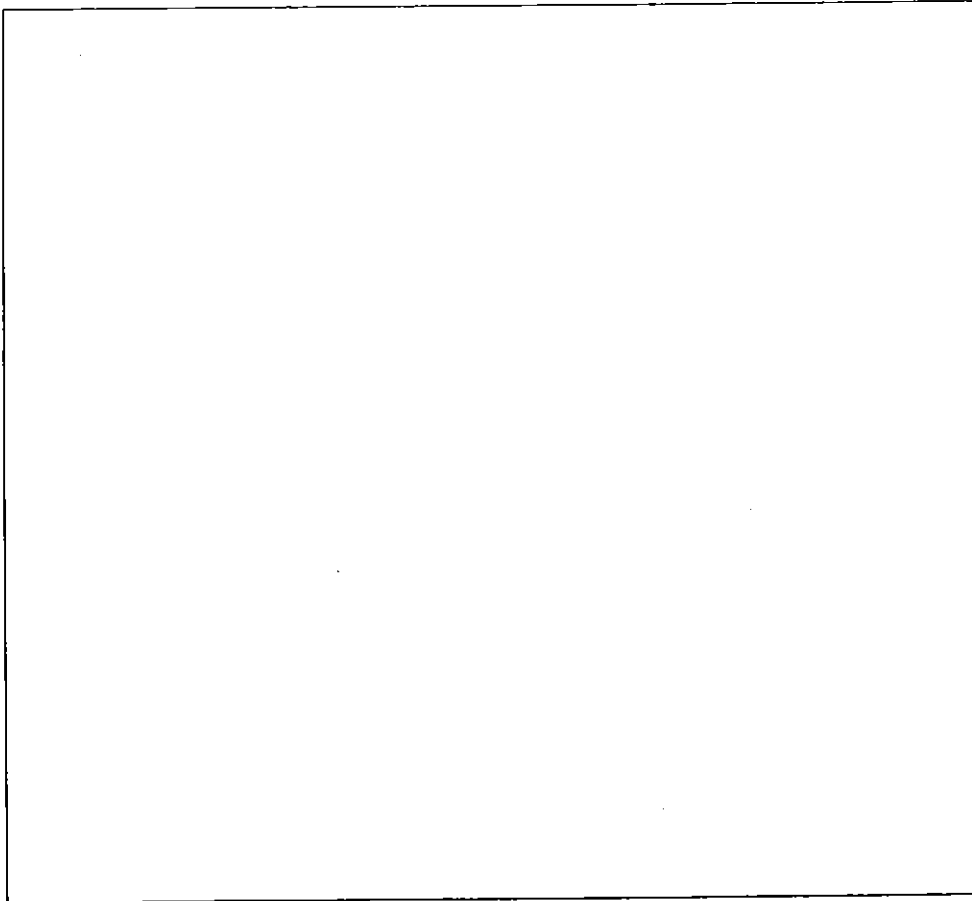
Operation of Product Leadership Team



Product Leadership Team







Technical Management - I

Insecticides

common name	trade names in CP	status
10 Permethrin	PERMETHIN	active
11 Permethrin	PERMETHIN	active
12 Permethrin	PERMETHIN	active
13 Permethrin	PERMETHIN	active
14 Permethrin	PERMETHIN	active
15 Permethrin	PERMETHIN	active
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47 Permethrin	PERMETHIN	active
48 Permethrin	PERMETHIN	active
49 Permethrin	PERMETHIN	active
50 Permethrin	PERMETHIN	active

50

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Technical Management - I

Insecticides

Pest complex	Broad spectrum	Fully active on certain species
Lepidoptera	Profenofos Lufenuron Enamectin L-Cyhalothrin	Abamectin Fenoxycarb
Sucking pests	Thiamethoxam Pymetrozine Difenthiuron Pirimicarb	Abamectin Lufenuron L-Cyhalothrin
Scales	Methidathion	Thiamethoxam
Coleoptera	Thiamethoxam L-Cyhalothrin	
Mites	Abamectin	Difenthiuron Bromopropylate
Diptera		Thiamethoxam Cyromazine Abamectin
Nematodes	Fosthiazate	Abamectin

51

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Technical Management - I

Insecticides

Key Projects 2001

- ☐ **Thiamethoxam** launch in various countries
- ☐ **L-Cyhalothrin** re-registration in WEU
- ☐ **Abamectin** re-registration in WEU, generic defense
- ☐ **Emamectin** in hous production

52

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Technical Management - I

Insecticides

Thiamethoxam (CGA-293'343)

Sucking pests and coleoptera

- avoid a Q* in US to fully exploit potential markets
- solve patent issue with Bayer
- ensure exploitation of unique features of the product
- develop relevant premixes in Japanese rice

Lambda-Cyhalothrin

Broad spectrum insecticide

- secure reregistration in WEU
- push Karate benefits2 project
-

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Technical Management - I

Insecticides

Abamectin (CGA-140'327)

mites /insects

- re-registration in WEU
- generic defense
- new formulations for market segmentation (ZEON, WG, nematodes)
- slugs

Emamectin (CGA-405'626)

Lepidoptera in vegetables and cotton

- registration and launch in veges and cotton in US
- inhouse production

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Technical Management - I

Insecticides

Profenofos (CGA-293'343)

Sucking pests and coleoptera

- maintain position of best OP controlling leps and sucking pests in cotton/veges
- continue development and registration of Curyom (PFFO + LUFE) in AP and LAM

Lufenuron (CGA-184'699)

Lepidoptera

- secure re-registration in WEU
- secure registration and launch in AUS

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Technical Management - I

Insecticides

Pymetrozine (CGA-215'944)

Aphids, WF

- secure change from WP25 to WG 50 formulation
- support further launch activities

Pirimicarb

Aphids

- evaluate value of US market vs. Thiamethoxam and Pymetrozine
- maintain green image within new tox classification in WEU

56
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Technical Management - I

Insecticides

Fosthiazate

nematodes

- registration in US
- get common agreement with ISK on product development and sales
- evaluate importance of nematicide within a banana and tomato crop program

Others

Methidathion

Scales

- ensure re-registration in WEU

Fenoxycarb

Tortricidae

- ensure re-registration in WEU

Cyromazine

leafminers

- ensure re-registration in WEU

57

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